

CLAIMS

1. A nucleotide detector comprising:

a substrate;

metal particles placed regularly on the substrate; and

5 one of a pair of nucleotide molecules capable of conjugating with each other, the one nucleotide molecule being bonded to each of the metal particles.

2. A method for manufacturing a nucleotide detector

10 comprising the steps of:

(a) arranging complex particles each including a metal particle and a protein molecule holding the metal particle on a substrate;

(b) removing the protein molecules; and

15 (c) bonding one of a pair of nucleotide molecules capable of conjugating with each other to each of the metal particles left on the substrate in the step (b).

3. The method for manufacturing a nucleotide detector of

20 Claim 2, wherein the protein molecules are Dps protein or apoferritin.

4. The method for manufacturing a nucleotide detector of

Claim 2 or 3, wherein the nucleotide molecules comprise a
25 plurality of types of nucleotide molecules having different

base sequences.

5. A method for producing a particulate film comprising the steps of:

- 5 (a) placing a substrate in a container so that a surface of the substrate is vertical to the liquid level of a liquid containing particulates filled in the container; and
- (b) raising or lowering the liquid level of the liquid.

10 6. The method for producing a particulate film of Claim 5, wherein the particulates have a diameter of 50 nm or less.

7. The method for producing a particulate film of Claim 5 or 6, wherein the particulates are protein.

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8. The method for producing a particulate film of Claim 7, wherein the protein contains an inorganic material inside.

9. The method for producing a particulate film of Claim 20 7 or 8, wherein the concentration of the protein in the liquid is 10 μ g/ml to 500 mg/ml.

10. The method for producing a particulate film of any of Claims 7 to 9, wherein the liquid contains an electrolyte.

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11. The method for producing a particulate film of any of Claims 7 or 10, wherein a liquid level raising or lowering rate of the liquid is substantially constant, and it is 10 mm/min. or less.

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12. The method for producing a particulate film of any of Claims 7 to 11, wherein the liquid is allowed to flow out by gravity.

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13. The method for producing a particulate film of any of Claims 7 to 12, wherein the substrate has a convex and concave pattern on a surface.